REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

No claims are requested to be cancelled. Claims 1, 10, 12 and 16-19 are currently being amended and claims 20-32 are being added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1, 3-6 and 8-32 are now pending in this application.

Claim Rejections under 35 USC 112

On page 2 of the Office Action dated September 25, 2007, Claims 16-19 were rejected under 35 USC 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, the Office Action states that the term "resonance level," found in claims 16-19, is used to mean "resonance peak" while its accepted meaning is "power level." The Office Action further states that the term is indefinite because Applicants have failed to clearly redefine the term in the specification.

Applicants have amended claims 16-19. Applicants now believe that the claims 16-19 are in condition for allowance with respect to 35 USC 112, second paragraph. Withdrawal of the rejection is respectfully requested.

Claim Rejections under 35 USC 103

On page 3 of the Office Action, claims 1, 3-6 and 8-19 were rejected under 35 USC 103(a) as being unpatentable over a combination of four different references, namely Kim et al.,

"A Low-Cost WDM Source with ASE Injected Fabry-Perot Semiconductor Laser," IEEE Photonics Technology letters, vol.12, no. 8, August 2000, p. 1067-69 (Kim) in view of U.S. Patent No. 6,449,074 (Okano) and Obermann et al., "Performance Analysis of Wavelength Converts Based on Cross-Gain Modulation in Semiconductor-Optical Amplifiers," Journal of Lightwave Technology, vol. 16, no. 1, January 1998, p. 78-85 (Obermann) and U.S. Patent No. 6,434,175 (Zah). Applicants respectfully traverse the rejection.

The combination of Kim, Okano, Obermann and Zah does not disclose, teach or suggest Applicants' claimed invention as recited in independent claims 1 and 16-19, as amended.

Claim 1, as amended, recite *inter alia*:

> optical network units are configured to *transmit a plurality of respective data signals to the kerb location*, wherein the *kerb location includes a plurality of optically pumped sources* configured to form data modulated transmission light … (for support see para. [0056])

(emphasis added, claims 16-19 recite similar limitations).

Claim 1 further requires *inter alia*:

> wherein the optical router is configured to route wavelength channels having predefined wavelength ranges assigned to respective optical network units *for transmission to the hub*,

(emphasis added).

Kim discusses a WDM PON architecture for upstream transmission. Kim describes upstream transmission as transmitting the broad-band ASE (central office) to the "remote node where an AWG slices the ASE spectrally. The spectrally sliced ASE is [then] injected into the F-P SLD located at the optical network unit (ONU)" and the wavelength of the upstream data is then "locked to the injected ASE wavelength." (Fig. 5, III. Discussion and Summary). In other words the direction of transmission is from the central office to the remote node and finally to the

ONU where the F-P SLD is located. There appears to be no discussion in Kim of transmission in the opposite direction (e.g., from the ONU to the cental office), how such transmission would take place, or what hardware or configuration would be required.

Conversely, claims 1 and 16-19 describe transmission from ONUs to a kerb location and then to a hub (e.g., cental office). Claims 1 and 16-19 recite "optical network units are configured to transmit a plurality of respective data signals to the kerb location . . . wherein the optical router is configured to route wavelength channels . . . for transmission to the hub." To facilitate this transmission from the ONUs to the hub, claims 1 and 16-19, as amended, recite a plurality of optically pumped sources at the kerb location that are configured to form data modulated transmission light. On page 4 of the Office Action, the Examiner states that the location of the optically pumped sources "is just a design choice." However, as mentioned, Kim only discusses upstream transmission (as defined by Kim), while claims 1 and 16-19 describe transmission in the other direction. Therefore, the location of the optically pumped sources for transmission to the hub is inapplicable to Kim and would not have been just a design choice because Kim discusses a different application, namely upstream transmission as defined by Kim. In support of this, the detailed description of the present application describes one embodiment in which the transmission occurs from the hub to the ONUs (same direction as Kim), and in this configuration the optically pumped sources at the kerb location are bypassed completely. (See para. [0070]).

Okano does not cure the deficiencies of Kim because Okano does not disclose, teach or suggest "optical network units [] configured to transmit a plurality of respective data signals to the kerb location, wherein the kerb location includes a plurality of optically pumped sources configured to form data modulated transmission light." Instead, Okano describes an optical communication system for eliminating deterioration in transmission quality when the number of WDM channels is changed. (col. 2, lines 6-10). As part of the system, Okano describes a wavelength converter for converting optical signals to electrical signals and a electrical signals to optical signals (Fig. 1; Fig. 12; col. 9, lines 36-49, 62-67; col. 10, lines 1-14), but that is not the

same as "optical network units [] configured to transmit a plurality of respective data signals to the kerb location, wherein the kerb location includes a plurality of optically pumped sources configured to form data modulated transmission light." Okano also describes an in line optical amplifier that pumps light from a laser diode to an erbium doped fiber (EDF) where the light is amplified. (Fig.1 item 16; Fig. 4; col. 5, lines 43-60). This, however, is not the same as "optical network units [] configured to transmit a plurality of respective data signals to the kerb location, wherein the kerb location includes a plurality of optically pumped sources configured to form data modulated transmission light" as recited in claims 1 and 16-19, as amended.

Obermann does not cure the deficiencies of Kim and Okano because Obermann does not discuss, teach or suggest "optical network units [] configured to transmit a plurality of respective data signals to the kerb location, wherein the kerb location includes a plurality of optically pumped sources configured to form data modulated transmission light" as recited in claims 1 and 16-19, as amended. Instead, Obermann discusses cross-gain modulation in semiconductor-optical amplifiers. (Abstract; I. Introduction).

Zah does not cure the deficiencies of Kim, Okano and Obermann because Zah does not discuss, teach or suggest "optical network units [] configured to transmit a plurality of respective data signals to the kerb location, wherein the kerb location includes a plurality of optically pumped sources configured to form data modulated transmission light" as recited in claims 1 and 16-19, as amended. Instead, Zah discloses a distributed-Bragg-reflector (DBR) laser for use as a transmitter in optical communications. (col.1, lines 6-10).

Applicants respectfully submit that neither Kim, Okano, Obermann nor Zah, alone or in combination, disclose, teach or suggest "optical network units [] configured to transmit a plurality of respective data signals to the kerb location [that] includes a plurality of optically pumped sources configured to form data modulated transmission light" as required by claim 1, as amended. Independent claims 16-19 recite similar limitations. Therefore, the rejection of independent claims 1 and 16-19, as amended, cannot properly be maintained. In addition, claims

3-6 and 8-15, which depend from claim 1, are allowable for at least the same reasons as independent claim 1.

Applicant has added claims 20-32 to the present application. Entry and allowance of claims 20-32 is respectfully requested.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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